numerous to yield an accurate orbit. It may, however, be as-
sumed, pretty safely, that it has been observed near its greatest
elongation, *i.e.* that the apparent semi-axis is between 17″ and 18″;
in which case it must have a period somewhere about 3 or 4 days.

Now the satellite has, approximately at least, always been
observed at the same part of its orbit, and hence the intervals
of 24, 27, and 12 days, must, approximately, be multiples of the
periodic time. The hypothesis of a period of 3 days, which first
presents itself (or more accurately, from the observations of Oct. 8
and Dec. 10, $2^d 23^h 45^m$), M. Struve finds wholly incompatible with
the observation of Dec. 9, and he prefers a period of 4 days (more
accurately, $3^d 22^h 10^m$); which, admitting a slight error on Nov. 1,
agrees equally well with the observations. This result also accords
better with the presumed mass of the planet; for the first period
and greatest distance, 17″·5, gives the mass $\frac{1}{15480}$, larger than
Bouvard's, while the second period assigns $\frac{1}{26860}$ to the mass,
somewhat less than Lamont's, but yet a tolerable approximation
to it.

The difference between M. O. Struve's period for this satellite,
and that of $5^d 21^h 25^m$, assigned to Sir W. Herschel's, is con-
sidered by M. O. Struve to be due to an erroneous estimate of the
semi-axis. He has no doubt of the identity of the two objects.

After remarking that the foregoing observations completely
prove the existence of Herschel's 1st supplementary satellite,
M. Struve remarks that the visibility of this satellite depends less
upon the aperture of the telescope employed than on the sharpness
of the image shewn. All the telescopes, in his opinion, which will
shew I and II, are *large* enough to shew i, if they are *good*
enough. It is not fainter than the other two, but, from its greater
proximity to *Uranus*, requires better defining power and freedom
from stray light.

M. O. Struve has not hitherto seen any other supplementary
satellite, but he remarks that the position of *Uranus* is every year
becoming more favourable for this inquiry; and there can be little
doubt of their speedy rediscovery, so far as they actually exist.

MISS MITCHELL'S COMET.

Observations.

HAMBURG. (M. Rümker.)

1847.	Hamburg M.T. h m s	R.A. ° ′ ″	N.P.D. ° ′ ″
Dec. 11	18 6 34·0	227 55 12·6	98 44 40·5
17	18 7 6·5	229 25 22·0	93 44 17·6
18	17 34 54·4	40 11·7	92 55 49·9
19	18 3 24·7	229 56 5·0	92 5 1·7

Elements.   By M. George Rümker.*

Perihelion Passage, 1847, November 14·1763.

Longitude of Perihelion ...... 274 26 10·8 } Eq. Oct. 17.
                   Node .... 190 55 55·6 }

Inclination . ... 72 10 50·7

Log Per. Dist. ... . 9·5184953   Motion Retrograde.

COLLA'S COMET.

Observations.

STARFIELD.   20-foot Equatoreal Reflector.   (Mr. Lassell.)

	Greenwich M. T.	Comet—Star.	
		R.A.	N.P.D.
1847.	h m s	m s	
Dec. 28	8 37 12·6	+0 30·36	
	8 52 15·5		+2 0·4
30	6 26 9·5	−1 0·90	
	7 7 8·2		+1 14·8

These are instrumental results, uncorrected.

" On Dec. 28 the comet was compared in R.A. with a star a, and in N.P.D. with a different star b, both of the 9·10th or 10th magnitude. These stars were again compared with a third star c, of about 8th magnitude. Assuming approximate apparent place of c to be,

R.A. $19^h 46^m 33^s$ N.P.D. $35° 43' 40''$ †

b follows c in $1\ 51·4$ and is south of c $2'\ 8''·3$
a precedes b by $0\ 32·7$ and is south of b $3\ 28·8$

" On Dec. 30 the apparent place of the star of comparison is approximately,

R.A. $19^h 55^m 35^s$ N.P.D. $36° 4' 30''$ (8 mag.)

" No illumination whatever could be used, on account of the excessive faintness of the comet. For the differences in N.P.D. I was obliged to use a somewhat ruder micrometer than Dollond's, and of a different construction. The sky on the 30th was of at least average clearness, yet the comet was almost the *minimum visibile*, with the full aperture of 24 inches."

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* A rough ephemeris of the comet for the first half of January, also by M. George Rümker, accompanied these elements, but arrived too late to be of use.
† c has a close comparison of 10·11 mag.